Howellia aquatilis Gray

howellia

Campanulaceae (Harebell Family)

Status: State Threatened, USFWS Threatened
Rank: G3S2S3

General Description: Branched aquatic annual with numerous, almost linear, leaves 1 to 2 inches long. Leaves mostly alternate, although sometimes subopposite or whorled. Flowers very small, white, irregular. Only those flowers which reach the surface of the water open up, while those that develop underwater remain closed. Both form mature fruits. Calyx lobes pointed, persistent in fruit. Capsule up to 0.5 inch long.

Identification Tips: Howellia is superficially similar to a number of other aquatic (and emergent) plants, most notably *Callitriche* spp. However, the persistent, spreading, pointed calyx lobes are distinctive.

Phenology: Seed germination apparently occurs in the fall and the plants overwinter as seedlings. Plants begin active growth from March to May, with the underwater flowers beginning to form soon after. Flowering and fruit development can continue well into the summer months, depending on weather patterns. Fruit development begins in mid-April.

Range: Regional endemic, currently known from California, Montana, Idaho and Washington. Historically known from Oregon. In WA, it occurs within the Columbia Basin and Puget Trough physiographic provinces.

Habitat: In Western WA, it occurs within the Western Hemlock Zone of Franklin and Dyrness (1973) in low elevation minerotrophic wetland community types. Typical associated species include: Oregon ash (*Fraxinus latifolia*), snowberry (*Symphoricarpos albus*), water parsnip (*Sium suave*), inflated sedge (*Carex vesicaria*), pondweed (*Potamogeton* sp.), yellow pond lily (*Nuphar polysepalum*), and reed canary grass (*Phalaris arundinacea*). In eastern Washington, it occurs in wetlands within the forested portions of the channeled scablands. Associated species include quaking aspen (*Populus tremuloides*), water parsnip (*Sium suave*), bur-reed (*Sparganium* sp.), bladderwort (*Utricularia* sp.), pondweed (*Potamogeton* sp.), and reed canary

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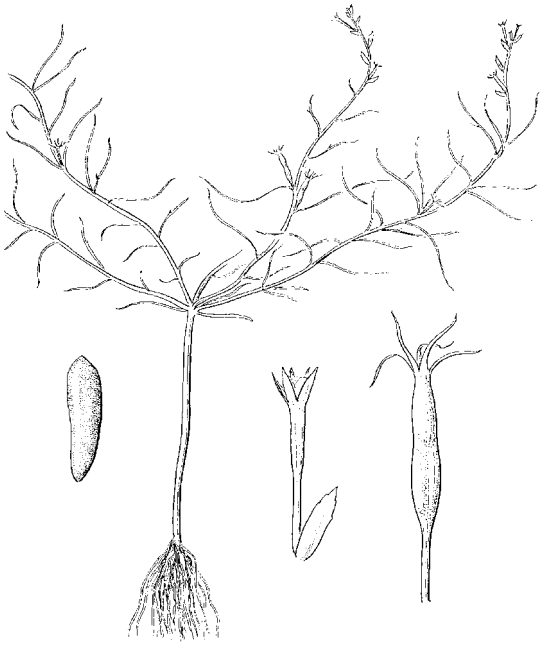
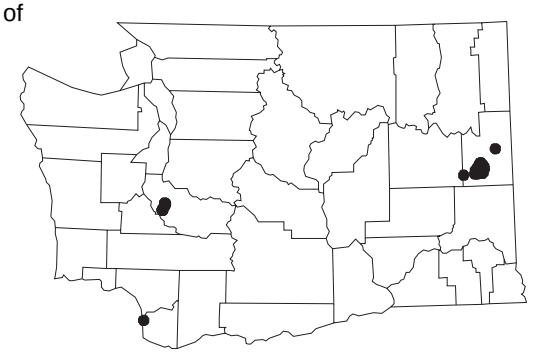


Known distribution of *Howellia aquatilis* in Washington



● Current (1980+)
○ Historic (older than 1980)

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John Gamon

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Habitat (continued)**:** grass (*Phalaris arundinacea*). It occurs mostly in small, vernal ponds, although some of the ponds may retain water throughout the year. Soils are rich in organic matter and frequently contain partially decomposed leaves, stems, and wood. Elevation: 10-2300 feet.

Ecology: The species apparently requires exposure to air to germinate and inundation for growth in the spring. This restricts the species to the zone within wetlands that is seasonally inundated, but which dries out in late summer or early fall. This annual inundation may be an important factor in keeping competing vegetation from becoming too well established.

State Status Comments: The primary factors contributing to the species' state status are the low number of populations, the loss of habitat, the presence of threats at most sites, and its taxonomic distinctness (i.e., it is the only member of its genus).

Inventory Needs: Inventory efforts should continue throughout the channeled scablands, around the forested northern periphery of the Columbia Basin, in the Puget lowlands, and in the greater vicinity of Ridgefield NWR.

Threats and Management Concerns: The most significant threats and management concerns are changes in wetland hydrology, an increase in weedy species (e.g., reed canarygrass), the threat of invasion by noxious weeds (e.g., purple loosestrife), livestock grazing, and timber harvest activities on adjacent uplands.

References:

Guard, B.J. 1995. *Wetland Plants of Oregon & Washington*. Lone Pine Publishing. Vancouver, B.C. 239 pp.

Hitchcock, C.L., A. Cronquist, M. Ownbey, and J.W. Thompson. 1959. *Vascular Plants of the Pacific Northwest, Part 4: Ericaceae through Campanulaceae*. University of Washington Press, Seattle. 510 pp.

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